

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION**

WESTERNGECO LLC,

Plaintiff,

v.

ION GEOPHYSICAL CORP.,

Defendant.

§
§
§
§
§
§
§
§
§

CIVIL ACTION NO. 09-cv-1827

MEMORANDUM AND ORDER

In this patent infringement suit, the Court is asked to construe aspects of six patents. In particular, the Court considers the asserted claims of U.S. Patent Nos. 6,932,017 (the “‘017 Patent”), 7,080,607 (the “‘607 Patent”), 7,162,967 (the “‘967 Patent”), and 7,293,520 (the “‘520 Patent”) (“Bittleston Patents” collectively); U.S. Patent No. 6,691,038 (the “‘038 Patent” or “Zajac Patent”); and U.S. Patent No. 6,525,992 (the “‘992 Patent” or “Ion Patent”). A hearing was held on May 14, 2010, during which the parties presented argument in support of their proposed constructions. This Court now construes the disputed claim terms as a matter of law under *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995), *aff’d*, 517 U.S. 370 (1996).

I. BACKGROUND

At issue in this case is marine seismic streamer technology that is deployed behind ships. These streamers, essentially long cables, use acoustic signals and sensors to create three-dimensional maps of the subsurface of the ocean floor in order to facilitate natural resource exploration and management. For many seismic studies, it is important

that the streamers be located at a specific depth and lateral position with respect to one another in order to achieve optimal imagery generated from the signals. In addition, greater control over the position of the streamers prevents streamer arrays from become entangled, and allows the streamer vessel to maneuver safely around impediments such as rocks and oil rigs. The patents at issue all pertain to streamer positioning devices, or devices that are used to control the position of a streamer as it is towed.

On June 12, 2009, Plaintiff WesternGeco LLC (“WG”) filed a Complaint alleging that Defendant Ion Corporation (“Ion”) was infringing upon the Bittleston Patents, so named after their inventor, Simon Bittleston, and the Zajac Patent, invented by Marc Zajac. All five of these patents are incorporated into WG’s streamer positioning product called “Q-Marine.” In response to the lawsuit, Ion filed a counterclaim against WG, alleging that WG was in fact infringing upon an Ion-owned patent, the ‘992 Patent. According to WG, although several models were tested, no functional products embodying the technology in the ‘992 Patent has ever been produced by Ion. Ion does not appear to dispute this point.

Aside from the patent issues, there are several other claims and counterclaims being asserted by the parties in this case. Most notably, the parties are in direct dispute as to inventorship of the technology embodied in the Bittleston patents. Apparently, a series of meetings took place between Simon Bittleston and employees of DigiCOURSE, Inc. (“DigiCOURSE”), the predecessor of Ion, in 1995, during which disclosures between the parties concerning steamer positioning technology were made pursuant to a Confidentiality Disclosure Agreement. Ion is asserting that the technology embodied in the Bittleston Patents contains elements of a DigiCOURSE prototype that was provided

to Bittleston during these meetings. The Court previously dismissed Ion's breach of contract and conversion counterclaims against WG. (*See* Mem. & Order, Oct. 28, 2009, Doc. No. 35.) The parties now seek to construe certain terms contained in all six patents-in-suit.

II. LEGAL STANDARD- MARKMAN HEARINGS GENERALLY

A. Claim Construction

Claim construction is a matter of law, and thus the task of determining the proper construction of all disputed claim terms lies with the Court. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996). The Federal Circuit has opined extensively on the proper approach to claim construction, most notably in its recent opinion in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc).

The goal of a *Markman* hearing is to arrive at the ordinary and customary meaning of a claim term in the eyes of a person of ordinary skill in the art. *Phillips*, 415 F.3d at 1313. In order to do so, the Court should first look to intrinsic evidence to decide if it clearly and unambiguously defines the disputed terms of the claim. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F. 3d 1576, 1585 (Fed Cir. 1996). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *Phillips*, 415 F.3d at 1314.

1. Claim Language

Words of a claim are generally given their ordinary and customary meaning, which is the meaning a term would have to a person of ordinary skill in the art after reviewing the intrinsic record at the time of the invention. *O2 Micro Int'l Ltd. v. Beyond Innovation Technology Co.*, 521 F.3d 1352, 1360 (Fed. Cir. 2008). Thus, the inquiry into

how a person of ordinary skill in the art understands a claim term provides an objective baseline from which to begin claim interpretation. *Phillips*, 415 F.3d at 1313. That starting point is based on “the well-settled understanding that inventors are typically persons skilled in the field of the invention, and that patents are addressed to, and intended to be read by, others of skill in the pertinent art.” *Id.* A district court is not obligated to construe terms with ordinary meanings, lest trial courts be inundated with requests to parse the meaning of every word in the asserted claims. *O2 Micro Intern. Ltd.*, 521 F.3d at 1360; *see also Biotec Biologische Naturverpackungen GmbH & Co. KG v. Biocorp, Inc.*, 249 F.3d 1341, 1349 (Fed. Cir. 2001) (finding no error in non-construction of “melting”); *Mentor H/S, Inc. v. Med. Device Alliance, Inc.*, 244 F.3d 1365, 1380 (Fed. Cir. 2001) (finding no error in the lower court's refusal to construe “irrigating” and “frictional heat”).

The claims themselves provide substantial guidance as to the meaning of particular claim terms. *Phillips*, 415 F.3d at 1314. To begin with, the context in which a term is used in the asserted claim can be highly instructive. *Id.* Other claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term. *Vitronics*, 90 F.3d at 1582. Because claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims. *Phillips*, 415 F.3d at 1314. “[D]ifferent words or phrases used in separate claims are presumed to indicate that the claims have different meanings and scope.” *Seachange Int’l, Inc. v. C-COR, Inc.*, 413 F.3d 1361, 1368 (Fed. Cir. 2005). Furthermore, the presence of a dependent claim that adds a particular limitation gives rise to a presumption that that limitation in question is

not present in the independent claim. *Phillips*, 415 F.3d at 1314 (citing *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004)).

2. Specification

In addition, the specification, or the part of the patent where the inventor describes and illustrates the invention in significant detail, “is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Vitrionics*, 90 F.3d at 1582. The importance of the specification in claim construction derives from its statutory role. The relationship between the written description and the claims is enforced by the statutory requirement that the specification describe the claimed invention in “full, clear, concise, and exact terms.” 35 U.S.C. § 112, ¶ 1. Consistent with that general principle, cases recognize that the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor's lexicography governs. *Phillips*, 415 F.3d at 316. In other cases, the specification may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor. In that instance as well, the inventor has dictated the correct claim scope, and the inventor's intention, as expressed in the specification, is regarded as dispositive. *Id.* The specification may also resolve ambiguous claim terms that are not sufficiently clear to permit the scope of the claim to be ascertained from the words alone. *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). Clear statements of scope in the specification are determinative of the correct claim construction. *Id.* at 1327.

Notably, while the specification may describe very specific embodiments of the invention, the claims are not to be confined to these embodiments. *Ventana Medical*

Systems, Inc. v. Biogenex Laboratories, Inc., 473 F.3d 1173, 1181 (Fed. Cir. 2006) (quoting *Phillips*, 415 F.3d at 1323); *see also DSW, Inc. v. Show Pavilion, Inc.*, 537 F.3d 1342, 1348 (Fed. Cir. 2008) (“Moreover, when claim language is broader than the preferred embodiment, it is well settled that claims are not to be confined to that embodiment.”); *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1117 (Fed. Cir. 2004) (stating that “[p]articular embodiments appearing in the written description will not be used to limit claim language that has a broader effect”); *Teleflex*, 299 F.3d at 1327 (noting that claim terms take on their ordinary and customary meaning, regardless of number of embodiments disclosed in the specification, unless intrinsic record reflects “expression of manifest exclusion or restriction, representing a clear disavowal of claim scope”).

However, the Federal Circuit has also held there to be certain instances where limiting language contained within a specification can lead to a restrictive construction. For example, in *Lizardtech, Inc. v. Earth Resource Mapping, Inc.*, 433 F.3d 1373, 1375 (Fed. Cir. 2006), the court stated:

However, in whatever form the claims are finally issued, they must be interpreted, in light of the written description, but not beyond it, because otherwise they would be interpreted to cover inventions or aspects of an invention that have not been disclosed. Claims are not necessarily limited to preferred embodiments, but, if there are no other embodiments, and no other disclosure, then they may be so limited. One does not receive entitlement to a period of exclusivity for what one has not disclosed to the public.

See also Anderson Corp. v. Fiber Composites, LLC, 474 F.3d 1361, 1367 (Fed. Cir. 2007) (upholding district court’s limiting construction of a claim term based on specification language that indicated that the limitation was not a preferred embodiment, but rather “a critical element in the process”); *Honeywell Int’l, Inc. v. ITT Indus., Inc.*,

452 F.3d 1312, 1318 (Fed. Cir. 2006) (holding that the meaning of a claim was limited to the single embodiment disclosed in the specification, and specifically noting that this sole embodiment was consistently referred to as “this invention” or “the present invention”). In *Honeywell*, the Federal Circuit found that the use of “present invention language” within the specification was significant in deciding whether claim terms could be limited by certain disclosed embodiments because “[t]he public is entitled to take the patentee at his word” *Honeywell*, 452 F.3d at 1316-18. Relatedly, in *Toro Co. v. White Consol. Industries, Inc.*, the Federal Circuit relied on the specification description and construed the term “including” so as to limit a patent claim, noting that “not other broader concept was described as embodying the applicant’s invention, or shown in any of the drawings, or presented for examination.” 199 F.3d 1295, 1301 (Fed. Cir. 1999).

Whether an invention is fairly claimed more broadly than the preferred embodiment in the specification is a question specific to the content of the specification. *Teleflex*, 299 F.3d at 1327. The distinction between using the specification to interpret the meaning of a claim and importing limitations from the specification into the claim is a difficult tightrope that district courts must walk. *Andersen Corp.*, 474 F.3d at 1373; *see also Innova/Pure Water Inc.*, 381 F.3d at 1117 (noting the longstanding difficulty in reconciling the axioms that a claim must be read in light of the specification and that a court may not read a limitation into a claim from a specification) (citing cases); *Comark Communications, Inc. v. Harris Corp.*, 156 F.3d 1182, 1186 (Fed. Cir. 1998) (noting that there is “a fine line between reading a claim in light of the specification, and reading a limitation into the claim from the specification”).

3. Prosecution History

Finally, the prosecution history, which has been designated as part of the “intrinsic evidence,” consists of the complete record of the proceedings before the PTO and includes the prior art cited during the examination of the patent. Like the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent. *Phillips*, 415 F.3d at 1317. Yet, because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes. *Id.*

Still, “a patentee may limit the meaning of a claim term by making a clear and unmistakable disavowal of scope during prosecution.” *Purdue Pharma L.P. v. Endo Pharms., Inc.*, 438 F.3d 1123, 1136 (Fed. Cir. 2006); *see also Omega Engineering Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003) (finding that the doctrine of prosecution disclaimer is well established and precludes patentees from recapturing through claim construction specific meanings disclaimed during prosecution). A patentee could do so, for example, by clearly characterizing the invention in a way to try to overcome rejections based on prior art. *See, e.g., Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1349 (Fed. Cir. 2004) (limiting the term “transmitting” to require direct transmission over telephone line because the patentee stated during prosecution that the invention transmits over a standard telephone line, thus disclaiming transmission over a packet-switched network); *Alloc v. Int’l Trade Comm’n*, 342 F.3d 1361, 1372 (Fed. Cir. 2003) (finding the patentee expressly disavowed floor paneling systems without “play” because the applicant cited the feature during prosecution to overcome prior art); *Bell Atl. Network Servs. v. Covad Commc’ns Group, Inc.*, 262 F.3d 1258, 1273 (Fed. Cir. 2001)

(limiting operation of the “transceiver” to the three stated modes because of clearly limiting statements made by the patentee to try to overcome a prior art rejection).

4. Extrinsic Evidence

Only if there is still some genuine ambiguity in the claims, after consideration of all available intrinsic evidence, should a trial court resort to extrinsic evidence, such as expert witness testimony, dictionary definitions, and legal treatises. While extrinsic evidence “can shed useful light on the relevant art,” it is “less significant than the intrinsic record in determining ‘the legally operative meaning of claim language.’ ” *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004) (quoting *Vanderlande Indus. Nederland BV v. Int’l Trade Comm’n*, 366 F.3d 1311, 1318 (Fed. Cir. 2004)). The judicial arbiter must be sufficiently informed so that she may step into the shoes of the ordinary skilled artisan. It is here that the use of extrinsic evidence makes the most sense.

B. Indefiniteness

A claim is invalid under 35 U.S.C. § 112, ¶ 2 if it fails to “particularly point out and distinctly claim the subject matter that the applicant regards as the invention.” A party seeking to invalidate a claim as indefinite must show by clear and convincing evidence that one skilled in the art would not understand the scope of the claim when read in light of the specification. *Mass Engineering Design, Inc. v. Ergotron, Inc.*, 559 F. Supp. 2d 740, 759 (E.D. Tex. 2008) (citing *Intellectual Property Dev. Inc. v. UA-Columbia Cablevision of Westchester, Inc.*, 336 F.3d 1308, 1319 (Fed. Cir. 2003)). Close questions of indefiniteness in patent litigation are properly resolved in favor of the

patentee, that is, the owner of the patent in question. *Bancorp Services LLC v. Hartford Life Ins. Co.*, 359 F.3d 1367, 1371 (Fed. Cir. 2004).

C. Means-Plus-Function Claims

35 U.S.C. Section 112, ¶ 6 provides:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, *and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof* (emphasis added).

Means-plus-function claims contain only purely functional limitations but do not provide the structures that perform the recited function. *See Phillips*, 415 F.3d at 1311; *Envirco Corp. v. Clestra Cleanroom, Inc.*, 209 F.3d 1360, 1365 (Fed. Cir. 2000). Section 112, ¶ 6 allows a patentee to “describe an element of his invention by the result accomplished or the function served, rather than describing the item or element to be used.” *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 27 (1997). The claim is then interpreted with reference to, and as limited by, the related structure disclosed in the patent for performing the function recited in the claim, or the equivalents thereof. *Welker Bearing Co. v. PHD, Inc.*, 550 F.3d 1090, 1099 (Fed. Cir. 2008); *Chiuminatta Concrete Concepts, Inc. v. Cardinal Indus., Inc.*, 145 F.3d 1303, 1308 (Fed. Cir. 1998).

The court must determine, as a matter of law, whether a phrase should be construed as a means-plus-function term. *Welker Bearing*, 550 F.3d at 1096. If the word “means” is used in a claim element, in combination with a function, the court must presume that Section 112, ¶ 6 applies unless the claim recited a sufficient structure to perform the function. *Id.*; *TriMed*, 514 F.3d at 1259; *Micro Chem., Inc. v. Great Plains*

Chem Co., 194 F.3d 1250, 1257 (Fed. Cir. 1999). If the word “means” is not used, the presumption is that a claim falls outside of Section 112, ¶ 6. *Micro Chem.*, 194 F.3d at 1257. This presumption is rebutted by showing that the claim element recites a function without reciting sufficient structure for performing that function. *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000). “Sufficient structure exists when the claim language specifies the exact structure that performs the functions in question without need to resort to other portions of the specification or extrinsic evidence for an adequate understanding of the structure.” *TriMed, Inc. v. Stryker Corp.*, 514 F.3d 1256, 1259-60 (Fed. Cir. 2008). If means-plus-function analysis applies, a court must first determine what the claimed function is and then determine the corresponding structures disclosed in the specification that perform that function. *Welker Bearing*, 550 F.3d at 1097; *Minks v. Polaris Indus., Inc.*, 546 F.3d 1364, 1377 (Fed. Cir. 2008).

III. ANALYSIS

The Court will now apply these general principles of claim construction to the terms at issue here. But first, it must be noted that the root of the parties’ dispute as to several of the claim terms turns on whether language or descriptions from the patent specification may be used to limit the claim scope. Each party seeks to construe claim language found in the asserted patents of another party according to descriptions found within the corresponding specification. At the *Markman* hearing, the parties cited repeatedly to Federal Circuit precedent that speaks to the issue of when claim language may be limited by embodiments disclosed in the specification. The Court will briefly review the most frequently referenced cases in order to put the parties’ arguments in context before turning to the individual claim terms.

In *Honeywell*, cited above, the Federal Circuit, in construing the claim term “fuel injection system component,” held that the term was limited to a fuel filter. 452 F.3d at 1318. The court there noted that a fuel filter was discussed in the specification not merely as a preferred embodiment, but as a limitation to the patent scope, because on at least four occasions the specification referred to the fuel filter as “this invention” or “the present invention.” *Id.* More recently, in *Verizon Services Corp. v. Vonage Holdings Corp.*, the Federal Circuit again reiterated that “when a patent [thus] describes the features of the ‘present invention’ as a whole, this description limits the scope of the invention.” 503 F.3d 1295, 1308 (Fed. Cir. 2007). These cases suggest, therefore, that the use of certain language such as “present invention” raises the presumption that the claim terms can be limited by the description of the invention provided in the specification.

However, as WG points out, the Federal Circuit has also held that, while clear language characterizing “the present invention” may limit the ordinary meaning of claim terms, such language must be read in the context of the entire specification, the claims, and the prosecution history. *Rambus Inc. v. Infineon Technologies Ag*, 318 F.3d 1081, 1094-95 (Fed. Cir. 2003). In *Rambus*, the Federal Circuit declined to limit the term “bus” to a “multiplexing bus,” noting that, although the phrase “present invention” was used in certain parts of the specification, the remainder of the specification and prosecution history showed that the patentee did not “clearly disclaim or disavow” such claim scope. *Id.* The *Rambus* Court went on to examine the patent language and prosecution history, reasoning that “multiplexing is not a requirement in all of [the patentee’s] claims.” *Id.* Accordingly, one district court, in determining whether “present invention” language within the specification could be used to limit the scope of a patent, determined that the

specification language was being used to describe only an embodiment of the invention. The court accordingly held that the claim scope could not be limited so that the process of modifying a PDL image file was required to be “automatic.” *Colorquick, LLC v. Eastman Kodak Co.*, 2008 WL 5771324, *13-14 (E.D. Tex. June 25, 2008). The *Colorquick* court noted the difficulties of reading *Honeywell* to require limiting all claims solely because the patent used language such as “the present invention” when describing an embodiment. *Id.*

Thus, in this case, Ion argues that, as in *Honeywell*, the Bittleston Patents and the Zajac Patent use the term “the present control system” to describe the invention, and that the claim scope should accordingly be limited to the provided description. WG argues that, despite the use of “present invention” language in the specification, claim terms must be read in light of the entire patent and specification, and that so limiting the claim scope would therefore be improper. Under this seemingly conflicting precedent, the Court now turns to the individual claim terms.

A. BITTLESTON PATENTS

1. “streamer positioning device(s)”; “the positioning device”

This phrase is used throughout the Bittleston Patents. WG seeks to construe the term as “a device that controls the position of a streamer as it is towed (*e.g.* a “bird”).” Ion seeks to construe the term as “device(s) used to steer/position the streamer both vertically and horizontally.” WG argues that Ion’s construction improperly attempts to limit the scope of the terms according to the preferred embodiments, and that it would render meaningless certain language within the patent claims. Ion responds that the inventor’s use of the term “the present control system” when describing this invention in

the specification necessarily limits the claimed invention according to the provided description.

Turning first to the claims themselves, claim 1 of the '017 Patent teaches a method for controlling the positions of marine seismic streamers with "each streamer positioning device having a wing and wing motor for changing the orientation of the wing so as to steer the streamer positioning device laterally." ('017 Patent, Pl. Br. Ex. 1, Doc. No. 61, col. 10 ll. 37-40.) This claim language, therefore, demonstrates that each positioning device should have a wing motor such that it is capable of steering a streamer horizontally. The Court agrees with Ion in this respect.

Turning then to the invention specification, it also states that "each streamer positioning device has a wing and a wing motor for changing the orientation of the wing so as to steer the streamer positioning device laterally." ('017 Patent, col. 2 ll. 51-54.) Therefore, Ion is correct that both the claim language as well as the specification support its argument that each streamer positioning device must be capable of steering horizontally.

However, nothing in either the claim language or the specification requires that each positioning device be must be capable of controlling the vertical position of the streamer. While it is true that, as Ion suggests, the description of the inventive system as a whole provided in the specification makes clear that vertical control of the streamers is possible, this speaks only to the fact that at least one of the streamer positioning devices on each streamer would necessarily have to be responsible for vertical positioning. However, this does not mean that the each and every positioning device must be capable of vertical steering. Indeed, claim 1 of the '967 Patent specifically teaches that each

streamer must have a “plurality of streamer positioning devices,” making it possible under the claim terms that not every streamer positioning devices actually controls vertical positioning, although such positioning is possible as to each streamer. (‘967 Patent, Pl. Br. Ex. 2, Doc. No. 61, col. 11 ll. 16-19.) Moreover, the specification makes clear that it is only a preferred embodiment of the invention that each streamer positioning device is both laterally and horizontally steerable, stating that “[p]referably, the birds are both horizontally and laterally steerable.” (‘017 Patent, col. 3 ll. 29-30). *See Halliburton Energy Services Inc. v. M-I LLC*, 514 F.3d 1244, 1251 (Fed. Cir. 2008) (noting that the use of the word “preferably” in a specification indicates that the description is only a preferred embodiment); *DSW, Inc v. Shoe Pavilion, Inc.*, 537 F.3d 1342, 1348 (Fed. Cir. 2008) (noting that it is well-settled that claims are not to be confined to a preferred embodiment). Therefore, the Court cannot accept Ion’s argument that the claim language or the specification require that this claim term be construed so as to require that each streamer positioning device be capable of vertical steering.

Furthermore, even if the Court were to accept that each and every streamer positioning device must be capable of lateral and vertical steering, the Court notes that Ion’s construction limits the claim term even further, so that each streamer positioning must be actually used for both kinds of steering. This distinction is an important one, and warrants reiteration. Not only does Ion seek to construe the term “streamer positioning device” so that each device is capable of vertical and horizontal streaming, but Ion’s construction would also require that each streamer positioning device in fact be used for both kinds of positioning. There is certainly nothing in the specification or in the claim language which requires that the term “streamer positioning device” be so narrowly

construed. Indeed, the specification discloses examples of birds that are used for vertical steering, lateral steering, and both. (*See* Pl. Br., Doc. No. 61, at 11 (citing to the ‘017 Patent).)

Finally, as WG points out, the patent claims themselves consistently reference whether the positioning devices within the scope of each claim are being used for horizontal steering, vertical steering, or both. Thus, to construe the term “streamer positioning device” with reference to its horizontal or vertical capabilities would, as WG argues, render certain language provided within the claims redundant. An example of this provided by WG is claim 1 of the ‘017 patent, which recites a “streamer positioning device having a wing . . . to steer the streamer device laterally.” (‘017 Patent, col. 10 ll. 37-40.) Thus, throughout these patents, the claims consistently “call out,” whether lateral or vertical steering is envisioned within the scope of the claim. As such, it is not necessary to construe the term “streamer positioning device” with reference to the way it is used for purposes of steering, as this is often what is described within the claim itself. Accordingly, the Court must reject Ion’s proposed construction. WG’s proposed construction, by contrast, reflects the ordinary meaning of the term “streamer positioning device.” This construction applies the “widely accepted meaning of commonly understood words.” *Phillips*, 415 F.3d at 1314. The Court will therefore construe the term “streamer positioning device” as “a device that controls the position of a streamer as it is towed (e.g. a ‘bird’).”

2. “global control system”

This term is also used throughout the Bittleston Patents. WG proposes seeks to construe this term as “a control system that sends commands to other devices in a system

(e.g. local control systems)”, while Ion proposes “system that monitors the position of the streamers and provides the desired forces or desired positioning information to the local control systems.” Therefore, the parties disagree as whether this term should be limited according to the kind of information that the global control system sends out, and whether it requires the presence of a local control system.

As WG points out, only some of the claims that describe the global control system in the patents-in-suit identify a corresponding local control system. Others describe the global control system but make no mention of a local control system. (*See* ‘017 Patent, col. 11 ll. 1-11.) This would suggest, therefore, that the presence of a local control system is not required by the claim language.

Turning then to the specification, the ‘017 Patent states “[i]n the preferred embodiment of the present invention, the control system for the birds is distributed between a global control system . . . and a local control system located within or near the birds.” (‘017 Patent, col. 3 ll. 36-40.) According to this language, then, the presence of both a global and local control system is only a preferred embodiment of the invention. In addition, the specification notes that “[i]n a preferred embodiment of the present invention, the global control system monitors the actual positions of each of the birds.” (‘017 Patent, col. 3 ll. 61-63.) Thus, a global control system that monitors the position of each of the birds is only a preferred embodiment of the patents in suit. The specification also states that the global control system “is *typically* connected to the seismic survey vessel’s navigation system and obtains estimates of system-wide parameters.” (‘017 Patent, col. 3 ll. 36-44 (emphasis added).) This language also thus suggests that the

described functionality of the global control system is only the preferred embodiment of the patented invention.

Ion, however, points out that the specification also states that “[t]he inventive control system is based on shared responsibilities between the global control system . . . and the local control system” (’017 Patent, col. 9 ll. 42-44) and that “the global control system is tasked with monitoring the positions of the streamers and providing desired forces or desired position information to the local control system. (*Id.* col. 9 ll. 45-48.) According to Ion, precedent indicates that the use of the term “inventive control system” signals the inventor’s understanding of the scope of his own invention. Because its construction tracks the way the inventor described the invention, argues Ion, it is an appropriate construction of the term.

While the Court acknowledges that Ion’s construction does track the manner in which the invention is described within the specification, the Court declines to construe the term “global control system” according to this language. First, although the specification does use the phrase “inventive control system” when stating that responsibility is shared between a global and local control system, the specification also states that it is only preferable that the control system be distributed between a global and local system. Ion therefore relies too heavily on the “magic words” of *Honeywell*, and ignores explicit language in the specification as well as the claim language that indicates that the global control system operating vis-a-vis a local control system is only a preferred embodiment of the invention.

Secondly, while Ion’s construction may be a correct description of how the global control system generally functions in the claimed invention, the Court finds it redundant

to construe the term according to these specifically named operations. Throughout the patents-in-suit, the individual claims themselves describe the way in which the global control system is to function within the scope of that claim, and also, when appropriate, the extent to which the global control system communicates with the local control system to control the positions of the streamers. As WG argued during the *Markman* hearing, at the stage of claim construction, the Court is tasked with construing the scope of specific claim terms within the patents, not with describing the operation of the entire invention through these disputed phrases. It is the claims themselves that are the primary indicators of the way in which individual components function to achieve their purpose. Thus, many arguments as to the reach and scope of the patent claims are more appropriate for the stage of infringement determinations. Therefore, the Court concludes that it is more appropriate to assign to this term a more general construction, and to leave it to the claim language to identify how the global control system operates vis-à-vis the streamer positioning device as well as the local control systems.

WG provides just such a construction. As such, the Court adopts WG's proposed construction of this claim term of "a control system that sends commands to other devices in a system (*e.g.* local control systems)."

3. "local control system"

This term is used in claims 1, 2, 4, 5, 7, and 15 of the '967 Patent. WG seeks to construe this term as "a control system located on or near the streamer positions devices (*e.g.* birds)," while Ion seeks to construe the term as "system located within each streamer positioning device that uses the desired forces or desired position information from the global control system to control the movement of the wing(s)."

The arguments of the parties with regard to this term largely mirror those advanced with respect to the term “global control system.” WG points out that the specification describes the local control system as being located “within or near the birds,” and thus this term need not be restricted to “within each streamer positioning device.” (’017 Patent, col 3 ll. 39-40); *Verizon*, 503 F.3d at 1305 (“We normally do not interpret claim terms in a way that excludes disclosed examples in the specification.”) WG further points out that the specification describes how the local control system interacts with the global control system using terms such as “embodiment,” and “preferably.” In other words, WG asserts that Ion’s construction attempts to improperly limit how the local control system inputs and outputs data according to the embodiments provided in the specification. Ion once again invokes the “magic words” theory from *Honeywell* and argues that its own construction simply tracks the patentee’s own description of the inventive control system’s local control system.

This Court once again chooses to adopt WG’s more general construction of the term local control system. As with the previous term, Ion’s “magic words” theory ignores the specification language indicating the provided descriptions of the local control system and how it interacts with the global control system are only preferred embodiments. This specification language, therefore, does not constitute the type of “disavowal” of claim scope present in *Honeywell*, and will not be used to place strict limitation upon the scope of the patent claims.

Furthermore, although both WG and Ion’s arguments find some support in the specification, the Court once again notes that the manner in which the local control system is to function, and the inputs and outputs that it receives from the global control

system, is often referred to within the patent claims themselves. As such, it is unnecessary to construe the term according to this description, as this would render the claims' description of the way in which the local control system is used redundant. Again, at this stage the Court is tasked only with construing one particular term, not with attempting to describe the functionality of the entire invention. Moreover, the Court notes that Ion's attempt to describe the functionality of the local control system within the construction of the term itself is unsurprisingly incomplete. For example, claims 4 and 5 of the '967 Patent teach a local control system that "calculates magnitude and direction of the deviation between" the desired position and the actual position. ('967 Patent, col. 11 ll. 37-47.) Such functionality is found nowhere in Ion's construction. Accordingly, the Court will once again apply the more general construction of "a control system located on or near the streamer positions devices (*e.g.* birds)."

4. "location information"

This phrase is used in claims 1, 8, and 15 of the '967 Patent. WG seeks to construe this term as "information regarding location." Ion largely agrees with this construction but argues that it should be made clear that this term does not include anything regarding force information; accordingly, Ion proposes the construction of "information regarding location (not including force information)." According to Ion, the specification plainly distinguishes between location information and force information because it teaches that the global control system transmits either "location information" or "force information." ('967 Patent, col. 6 ll. 45-47.)

Importing negative limitations into a claim absent an explicit disavowal is generally disfavored. *See Omega Eng'g. Inc. v. Raytek Corp.*, 334 F.3d 1314, 1332-33

(Fed. Cir. 2003) (noting that a negative limitation imposed by the district found no anchor in the claim language, the plain and ordinary meaning of the phrase, or in any express disclaimer within the specification). Although the specification for the Bittleston Patents appears to draw a distinction between location and force information when stating that “the global control system can transmit location information to the local control system instead of force information,” there is nothing in the claim language or the specification that says that location information can never consist of force information or that the two kinds of information can never overlap. (‘967 Patent, col. 6 ll. 45-47.) The single statement within the specification that distinguishes between location and force information does not constitute the type of “disavowal” that would render appropriate a negative limitation. As such, the Court declines to construe this term using the negative limitation suggested by Ion. Instead, the Court adopts WG’s proposed construction, and holds that “location information” should be construed as “information regarding location.” This construction applies the “widely accepted meaning of commonly understood words.” *Phillips*, 415 F.3d 1314.

5. “on or in-line with”

This phrase is used in claim 15 of the ‘607 and ‘967 Patents. WG seeks to construe this term as “attached externally to or in-line with.” Ion seeks to construe the term as “attached to or in-line with.”

In construing the word “on” as “attached externally to,” WG seeks to distinguish between those devices that are attached externally to streamers from those are in-line with, or part of the linear of, the streamer, as is WG’s Q-Marine. WG also argues that the plain meaning of the word “on” implies an external connection, rendering it appropriate

to explicitly add the word “external” to the construction of the term. Ion, however, takes issue with this “external vs. in-line with” dichotomy, and argues that there are certain devices that are “hybrid” in that they contain a component that is in-line with the streamer as well as a part that is attached externally. Ion also points out that the term “externally” appears nowhere in either the claim language or the specification. Ion therefore seeks to construe this phrase without this limitation.

The Court notes that WG relies only on external evidence to establish the purported distinction between devices that are on, and those that are in-line with, the seismic streamers. Ion apparently disagrees that this binary framework is as exact as WG avers. The Court will not rely on only external evidence to construe this term so as to create the binary distinction as WG advocates.

In addition, the Court notes that to the extent that the word “on” implies a connection that is different from “in-line,” this difference is made apparent by the fact that the terms are separated with the word “or.” Therefore, the Court holds that the phrase “on or in-line” is sufficiently clear that it needs no construction. Any fact-finder can be trusted to understand the plain and ordinary meaning of the word “on” such that the Court need not impose a construction, particularly one that finds no support in the intrinsic evidence. A district court is not obligated to construe terms with ordinary meanings, lest trial courts be inundated with requests to parse the meaning of every word in the asserted claims. *O2 Micro Intern. Ltd.*, 521 F.3d at 1360; *see also Biotec Biologische Naturverpackungen GmbH & Co. KG v. Biocorp, Inc.*, 249 F.3d 1341, 1349 (Fed. Cir. 2001) (finding no error in non-construction of “melting”); *Mentor H/S, Inc. v. Med.*

Device Alliance, Inc., 244 F.3d 1365, 1380 (Fed. Cir. 2001) (finding no error in the lower court's refusal to construe “irrigating” and “frictional heat”).

6. “feather angle mode”

This phrase is used in claim 7 of the ‘017 and ‘607 Patents, claim 8 of the ‘967 Patent, and claims 1, 2, 18, and 19 of the ‘520 Patent. WG seeks to construe this term as “a control mode that attempts to set and maintain each streamer in a straight line offset from the towing direction by a certain feather angle.” Ion seeks to construe the term as a “mode wherein the global control system attempts to keep each streamer in a straight line offset from the towing direction by a certain feather angle.” The primary difference between these proffered constructions is that Ion seeks to construe the term so that it is the global control system that acts to affect the streamer positions when the feather angle mode is triggered.

WG points out that the ‘017, ‘607, and ‘967 Patent claims in which this phrase is used explicitly state that the global control system is the actor in implementing the feather control mode. However, as the phrase is used in the ‘520 Patent, no mention is made of the global control system. Instead, the claims refer only to a “control system.” According to WG, absent a clear and unmistakable disavowal of the claim scope, the construction of the term should not be limited according to how the phrase is used in some but not all of the patent claims. Ion, however, points out that the specification, when describing the control modes of the inventive system as a whole, teaches that the feather angle mode is where “the global control system attempts to keep each streamer in a straight line offset from the towing direction by certain feather angle.” (‘017 Patent, col. 9 ll. 55-58.)

The Court once again holds that, although Ion's description tracks the language used in the specification to describe how the feather control mode is implemented, it must read the specification in the context of the patents as a whole. Absent a clear and unmistakable disavowal or limitation on the claim scope, the Court will not impose the claim limitation that Ion proposes. While it is clear that the preferred or typical embodiment of the patent will involve the global control system acting to implement the feather control mode, the Court must acknowledge that several of the claims teach a method of implementing the feather control mode wherein the global control system is not mentioned. *Innova/Pure Water Inc.*, 381 F.3d at 1117 (stating that "[p]articular embodiments appearing in the written description will not be used to limit claim language that has a broader effect"). Therefore, because it is consistent with the meaning revealed through the claim language as well as the specification description, the Court will adopt WG's construction of this term and finds that it should be construed as the "a control mode that attempts to set and maintain each streamer in a straight line offset from the towing direction by a certain feather angle."

7. "turn control mode"

This claim is used in claim 7 of the '017 and '607 Patents, claim 8 of the '967 Patent, and claims 1,6,18, and 23 of the '520 Patent. WG seeks to construe this term as "a control mode in which the streamer positioning devices first generate force in the opposite direction of the turn and then are directed back into position." Ion seeks to construe this term as "mode wherein streamer positioning device(s) generate a force in the opposition direction of a turn and then directing each streamer positioning device to the position defined in the feather angle mode." The primary difference between these

constructions, therefore, is whether “turn control mode” should be construed with reference to the feather angle mode.

Claims 6 and 9 of the ‘520 Patent describe the two stages of the turn control mode. Claim 9 of the Patent, which is dependent on claim 6, addresses what happens after the streamers are directed to generate force opposite the turn: “commanding each streamer positioning device to go to a position defined by the feather angle control mode.” (‘520 Patent, Pl. Br. Ex. 4, Doc. No. 61, col. 11 ll. 40-44.) The construction proposed by Ion, therefore, directly mirrors the language used in the claims themselves to describe the turn control mode. WG once again argues that, because it is only the term that is being construed, and not the entire invention, it is unnecessary to describe how the mode is implemented within the construction of this term. However, WG’s proposed construction is also a description of how the turn control mode is implemented, only with the reference to the feather angle mode eliminated. Therefore, WG should not try to controvert Ion’s construction on the grounds that it attempts to describe the implementation of the turn control mode, as it appears to agree that some description of the implementation is an appropriate way to construe the term.

Turning then to the specific language chosen by each party to describe the implementation, Ion’s construction provides a more complete description because it actually mirrors the language used within the patent-in-suit claims, which clearly refer to the feather angle mode to describe the second stage of the turn control mode. Accordingly the Court adopts Ion’s construction of this term and holds that it should be construed as “mode wherein streamer positioning device(s) generate a force in the

opposition direction of a turn and then directing each streamer positioning device to the position defined in the feather angle mode.”

8. “streamer separation mode”

This phrase is used in claim 8 of the ‘017 and ‘607 Patents, claim 9 of the ‘967 Patent, and claims 1, 13, 18, and 30 of the ‘520 Patent. WG seeks to construe this term as “a control mode that attempts to set and maintain the spacing between adjacent streamers.” Ion seeks to construe this term as a “mode wherein the global control system attempts to maximize the distance between adjacent streamers.” The primary dispute between the parties, therefore, is whether this control mode should be construed so as to require that the global control system act to maximize the distance between streamers.

Ion once again points out that its construction of the term tracks the language used in the patent specification, or the description of the “inventive system.” Once again, however, the Court declines to use the specification language to limit the scope of this term. As to the necessity of the global control system, as stated above, the Court must recognize that certain claims within the ‘520 Patent describe the implementation of the streamer separation mode with no reference to a global control system. Therefore, although the specification makes clear that use of the global control system to implement this mode is a preferred embodiment of the invention, the Court declines to construe this term such that it requires a global control system. *Innova/Pure Water Inc.*, 381 F.3d at 1117 (stating that “[p]articular embodiments appearing in the written description will not be used to limit claim language that has a broader effect”).

Furthermore, as WG points out, claim 8 of the ‘017 Patent describes the streamer separation mode as one where the global control system attempts to direct the streamer

positioning device “to maintain a minimum separation between adjacent streamers.” (‘017 Patent, col. 11 ll. 12-16.) Construing the streamer separation mode as an attempt to maximize the distance between the streamers would, therefore, directly conflict with this claim language, which calls for only a minimum separation distance between adjacent streamers. In addition, claim 14 of the ‘520 Patent, which is dependent on claim 13, specifically cites a limitation wherein the control system is “attempting to maximize the distance between adjacent streamers.” (‘520 Patent, col. 11 ll. 57-59.) Because this is a dependent claim, it is presumably narrower than the preceding independent claim, which describes the streamer separation mode as one where “the control system is attempting to minimize the risk of entanglement of the streamers.” (‘520 Patent, col. 11 ll. 54-56.) Accordingly, the Court declines to construe this term as requiring either a global control system or distance maximization. Instead, the Court will adopt WG’s construction, and holds that streamer separation mode should be construed as “a control mode that attempts to set and maintain the spacing between adjacent streamers.”

9. “means for obtaining a predicted position of the streamer positioning devices”

This phrase is used in claim 16 of the ‘017 Patent. WG seeks to construe this term as “a global control system or position predictor software, and equivalents thereof.” Ion proposes the same construction, except that it replaces the word “or” after “system” with “and”.

The parties agree that this particular phrase is a “means-plus-function claim that is governed by 35 U.S.C. § 112, ¶ 6. The question therefore turns on what devices are necessary to perform the function disclosed in the claim term. WG argues that Ion again attempts to improperly limit the scope of a claim to the preferred embodiment disclosed

in the specification, and that the global control system is not a necessary structure to perform the stated function. Ion correctly points out that the only structures which are disclosed in the '017 Patent that can perform the stated function are the global control system and the position predictor software. As described in the specification "the global control system runs position predictor software to estimate the actual location of each of the birds." ('017 Patent, col. 4 ll. 31-32.) Ion is correct, therefore, that position predictor software is an indisputably necessary structure to perform the disclosed function. Moreover, some device is necessary actually to execute or run this software. The only device disclosed in the specification that can execute the position predictor software is the global control system.

At the *Markman* hearing, counsel for WG represented that it would agree to construing the term as "control system and position predictor software," to allow for the fact that a global control system is not disclosed in every claim. However, although WG is correct that certain claims within the patent-in-suit refer only to a control system rather than a global control system, the fact remains that the only *disclosed* structure capable of running the position predictor software is the global control system. The specification reveals no other structure, or any other type of control system, that might be capable of performing this disclosed function. Accordingly, the Court must conclude that, under Section 112, ¶ 6, this term should be construed to include the global control system. It therefore adopts Ion's proposed construction of this term, and construes it as "global control system and predictor software; and equivalents thereof." The Court also notes that, to the extent that there may be an embodiment of the invention in which there is no global control system, but some other control system, such a system might fall

within the “equivalents thereof” portion of the construction, thereby addressing WG’s concerns. *See Welker Bearing*, 550 F.3d at 1099 (holding that means plus function claims are interpreted with reference to, and as limited by, the related structure disclosed in the patent for performing the function recited in the claim, or the equivalents thereof).

10. “means for obtaining an estimated velocity of the streamer positioning devices”

This phrase is used in claim 16 of the ‘017 Patent. As with the previous term, the parties agree that this term should be construed according to Section 112, ¶ 6, or as a means-plus-function claim. WG seeks to construe this term as “a global control system, flowmeters, or water velocity sensors, and equivalents thereof.” Ion seeks to construe this term as “flowmeters; water velocity sensors; and equivalents thereof.” Thus, the parties do not dispute that “water velocity sensors” and “flowmeters” are corresponding structures. However, they disagree as to whether the global control system is disclosed as a structure that can independently perform the stated function.

The Court agrees with Ion that the specification does not reveal that the global control system can independently perform the stated function, that is, the obtaining/determining of the estimated velocity of the streamer positioning devices. The specification reveals that “[c]urrent speed and heading can also be estimated based on the average forces acting on the streamers by the birds,” but does not reveal what structure is performing these estimates. (‘017 Patent, col. 4 ll. 42-44.) Indeed, the specification refers to the global control system only as acquiring certain parameters from the vessel’s navigation system, and sending certain information to the local bird controller. (‘017 Patent, col. 4 ll. 37-48). As Ion argued at the *Markman* hearing, nowhere is it stated that it is the global control system that calculates or estimates the velocity of the streamer

positioning devices. Thus, it is not at all apparent to this Court that the global control system is among the structures necessary to perform the stated function, and will therefore not construe this claim so as to include it. Although the global control system may play a part in processing the information in question, it is not disclosed as structure used to perform the function contained within this phrase. Accordingly, the Court adopts Ion's construction and hold that this phrase will be construed as "flowmeters; water velocity sensors; and equivalents thereof."

11. "means for calculating desired changes in the orientations of the respective wings of at least some of the streamer positioning devices using said predicted position and said estimated velocity"

This claim is used in claim 16 of the '017 Patent. Both parties agree that this term is a means-plus-function claim that should be interpreted according to Section 112, ¶ 6. WG seeks to construe this term as "a global control system, a local control system, a look-up table or a conversion routine, and equivalents." Ion seeks to construe the term as "global control system, local control system and localized displacement/force conversion program; and equivalents thereof." Therefore, the only dispute between the parties is whether the look-up table and conversion routine and the localized displacement/force conversion program are disclosed in the patent.

WG argues that, because the look-up table and conversion routine are clearly disclosed in the patent, they should be made part of the construction. Ion argues that the look-up table and conversion routine may be used by the localized displacement/force conversion program to achieve the desired function, but that this term is not a disclosed structure that can independently perform the stated function.

The Court first notes that the localized displacement/force conversion program is, under the claim terms, a device used by the local control system to achieve the stated function. ('017 Patent, col. 6 ll. 3-6.) In other words, both the localized displacement/force conversion program and look-up table or a conversion routine are not independent structures that perform the stated function, but, instead, are structures which are implemented by another structure, the local control system. Under Ion's theory, therefore, because it is being used by the local control system, the localized displacement/force conversion program also should not be included within the list of disclosed structures used to achieve the stated function.

The Court finds that this would be too limited an interpretation of the mean-plus-function analysis. The Court is tasked with construing means-plus-function claims according to any structure revealed in the specification that corresponds or relates to the recited function. *Welker Bearing*, 550 F.3d at 1097; *Minks v. Polaris Indus., Inc.*, 546 F.3d 1364, 1377 (Fed. Cir. 2008). Because both the localized displacement/force conversion program and a look-up table or a conversion routine are structures disclosed within the specification which correspond to the desired function, the Court will include both in its construction. That these structures are used in conjunction with other disclosed structures does not mean that they should be excluded from the list. As such, the Court construes this term as "global control system; local control system and localized displacement/force conversion program using a look-up table or a conversion routine; and equivalents thereof."

12. "means for actuating the wing motors to produce said desired changes in wing orientation"

This phrase is used in claim 16 of the '017 Patent. At the *Markman* hearing, WG represented that it agreed with Ion's proposed construction of this claim term. Accordingly, the Court will adopt the agreed construction of "motor driver; and equivalents thereof."

B. ZAJAC PATENT

1. "active streamer positioning device"

This term is used throughout the Zajac Patent. WG seeks to construe this term as "a device for controlling the horizontal and/or vertical position of a seismic streamer." Ion seeks to construe this term as "device used to control the vertical and horizontal positioning of a streamer."

The Court first notes that the Zajac Patent, as compared to the Bittleston Patents, makes more explicit the requirement that each active streamer positioning device ("ASPD") should be capable of horizontal and vertical positioning of the streamers. Claim 1 of the '038 Patent states that "the master controller" issues positioning commands to each ASPD to adjust a horizontal and vertical position of a first streamer relative to a second streamer. ('038 Patent, Pl. Br. Ex. 5, col. 11 ll. 23-26.) As Ion points out, because the controller issues horizontal and vertical positioning commands, such commands would be futile unless each ASPD was capable of receiving both horizontal and vertical positioning signals. Claim 19 of this Patent goes on to describe a seismic streamer array positioning system wherein an APSD "is attached to each seismic streamer for vertically and horizontally positioning each seismic streamer." ('038 Patent, col. 12 ll. 63-65.) Thus, this claim also indicates that an APSD is attached to a streamer for both vertically and horizontally positioning the streamer. In addition, the specification uses

“present invention” language and states that “one or more ASPD is employed on each seismic array” (’038 Patent, col. 3 ll. 1-6.) As Ion argues, because the invention only requires that at least one positioning device be located on each streamer, this device would, in order to effectuate the patented technology, necessarily have to control both vertical and horizontal steering. Therefore, unlike with the Bittleston Patents, the Court can conclude that the APSD described in the Zajac Patent must be capable of both vertical and horizontal positioning.

Nonetheless, that each ASPD must be capable of both types of steering need not be equated with *use* of each of the devices for vertical and horizontal positioning. Indeed, Ion appears to admit this when it states that “Ion does not dispute that an ASPD can be operated in only a horizontal positioning mode.” (Def. Resp. Br., Doc. No 73, at 15.) The Court’s construction of the disputed term must, therefore, reflect this distinction between capability and use, because neither the patent claims nor the specification disavow the possibility that the ASPDs might be used for either vertical or horizontal positioning, although they are capable of both. As WG argued during the hearing, the summary of the invention says only that the streamer must be controlled both vertically and horizontally, but not that every single APSD must perform both functions. While WG’s construction reflects that the ASPD may be used for either vertical or horizontal positioning, however, the construction that it offers does not make clear that the ASPD must be capable of both types of the positioning. As such, this Court will not adopt the construction offered by either party, and instead construes this claim term as “a device capable of controlling the vertical and horizontal position of the seismic streamer.”

2. “the master controller”

This phrase is used in claim 29 of the '038 Patent. WG seeks to construe this term as “a master controller.” Ion argues that this claim is indefinite under 35 U.S.C. § 112, ¶ 2 because the preceding independent claim, claim 26, contains no description of a controller, whether master or otherwise. Therefore, argues Ion, it is not clear to what “the master controller” refers, thereby making the scope of the claim unclear. WG argues that this is simply a broad claim, but that its breadth does not make it inherently unclear.

This Court agrees that, in using the term “the,” this claim term is somewhat ambiguous because there is no antecedent claim to which “master controller” clearly refers. However, because the term “master controller” is not unclear, and has indeed been construed by the parties as “a controller that sends commands to other devices in a system,” the Court finds that the logical solution to this ambiguity is to simply construe the term as “a master controller,” rather than to strike the claim entirely. While the Court fully appreciates Ion’s position, the Court is not prepared to strike the entire claim from this patent because of a misused article. As such, the Court will construe “the master controller” as “a master controller.”

3. “positioning commands”

This term is used throughout the Zajac Patent. At the *Markman* hearing, the parties indicated that they could agree on construing this term as “signals or instructions to control positioning.” The Court will accordingly adopt this construction.

4. “maintaining a specified array geometry”

This term is used in claims 1, 14, 26, and 39 of the Zajac Patent. At the hearing, the parties agreed to construe this term as “maintaining a specified array shape.” The Court will accordingly adopt this construction.

5. “environmental factors/influences/measurements”

This term is used throughout the Zajac Patent. At the hearing, the parties agreed to construe this term as “environmental factors or influences such as wind speed and direction; tidal currents velocity and direction; ocean bottom depth/angle; local current velocity and direction; wave height and direction; ocean bottom depth/angle; and water temperature and salinity.” The Court will accordingly adopt this construction.

6. “maneuverability influences”; “maneuverability factor(s)”

This terms is used throughout the Zajac Patent. At the hearing, the parties agreed to construe this term as “conditions that affect maneuverability other than environmental conditions such as cable diameter, array type, deployment configuration, vessel type, device type, etc.” The Court will accordingly adopt this construction.

C. THE ‘992 PATENT

1. “a body . . . mountable to the underwater cable”

This phrase is used in claim 1 of the ‘992 Patent. WG argues that it should be construed as “a device attached externally to an underwater cable.” Ion argues that the phrase should be construed as “a body attachable . . . to the underwater cable.”

In a predictable role reversal, Ion now argues that WG’s construction attempts to improperly limit the scope of the claim term to a disclosed embodiment in the specification. Ion points out that, unlike with the specification of the Bittleston and Zajac Patents, that the Ion Patent does not contain any “present invention” language that would suggest that it should be so limited. Ion further argues that the testimony of Peter Canter, WG’s expert, describing the difference between in-line and external devices is conclusory and should be ignored. WG points out that Ion’s invention is essentially a “clamping

device,” which should be distinguished from the in-line devices that are embodied in WG’s patent and its “Q-Marine” product. (*See* Peter Canter Expert Report, WG Br. Ex. D, ¶ 55 (noting the distinction between in-line and externally attached devices).) In order to establish this distinction, WG seeks to add the word “externally” to the claim construction.

The patent claim language does not immediately reveal how the term “mountable” should be construed. However, considering the plain and ordinary meaning of the claim term, the Court agrees with WG that the word “mountable” generally connotes an external connection of some kind, rather than one in which the connection allows the attachment to become part of the base structure. Moreover, WG’s construction is consistent with the single embodiment of the invention revealed in the specification, which describes an “external device” mounted to an underwater cable. (‘992 Patent, Pl. Br. Ex. 6, Doc. No. 161, col. 2 ll. 66-67, col. 3 ll. 16-18.) Figure 32 of the ‘992 Patent likewise portrays a diagram of the streamer with an attachment that is labeled “external device.” (‘992 Patent at WG00029644.) Although Ion is correct that the specification does not contain the kind of “present invention” language that courts have held signal a limitation to the patent scope, the Court must acknowledge that this is the single embodiment disclosed in the specification and is consistent with the natural meaning of the claim language, as something that is “mounted” is supported by something else while remaining an entirely separate object. Finally, as WG pointed out during the *Markman* hearing, an examination of the prosecution history of this patent reveals that the original application for the ‘992 Patent specifically described an invention “having one or more external devices mounted on the cable.” (‘992 File History, at ION617.) Nothing in the

later amendments to the application appear to have altered this initial characterization of the claimed invention.

Moreover, to construe this claim term such that the body is attached externally does not undermine the possibility of an internal component to the invention. That a body is externally mountable says nothing as to whether there might be non-external component with which the mounted body interacts for inductive coupling, as Ion's invention apparently includes. In so recognizing, the Court will not adopt WG's language which attempts to equate the term "body" with the entire device, as the portion of the invention that remains under the skin of the streamer could certainly be said to be part of the device, though perhaps not part of the body.

In the Court's opinion, the term "mountable" sufficiently conveys the notion that the body of the device is externally connected to the steamer such that it needs no construction. However, both parties appear to seek construction of the phrase. Of the two proposed constructions, the Court is of the opinion that WG's more accurately reflects the Court's understanding of the term "mountable" as it is used in this claim term. Ion's use of the word "attachable" appears to broaden the scope of the claim language, because to say that an object can be "mounted" implies something slightly more specific than to say that it can be "attached." Neither the claim language nor the specification reveal any possible embodiment of the claimed invention in which the body in question is attached, but not mounted, to the seismic streamer. The Court therefore adopts WG's construction and construes this term as "a body attached externally to the underwater cable."

2. "a body connectable to the underwater cable"

This phrase is used in claim 13 of the '992 Patent. WG seeks to construe this term as "a device attached externally to the underwater cable." In support of this construction, WG offers largely the same argument as was made with respect to the previous claim term. Ion asserts that this phrase needs no construction. Ion argues that this claim need no construction.

The Court notes that the term "connectable" contains a different connotation from the word "mountable." Whereas, with the previous phrase, the plain and ordinary meaning of the claim terms connoted an external connection of some kind, the term "connectable" does not invoke the same relationship between two objects. At first glance, therefore, the Court must be suspect of WG's proposal, which seeks to construe this phrase and the previous phrase in an identical manner. As Ion correctly points out, such a construction would be contrary to presumption of claim differentiation, which counsels that identical construction of two claim terms that use different words is inappropriate. *Seachange Int'l, Inc. v. C-COR, Inc.*, 413 F.3d 1361, 1368 (Fed. Cir. 2005) ("[D]ifferent words or phrases used in separate claims are presumed to indicate that the claim have different meanings and scope.")

Nonetheless, the Court is faced with a situation in which an externally connected body is the only device that is disclosed and described in the specification. Moreover, unlike several of the claims within the Bittleson and Zajac Patents, the claim terms here do not offer any reason to believe that the scope of this phrase should be construed more broadly than what the specification describes. In other words, "[n]o other structure is illustrated or described" and "[n]o other broader concept [is] described as embodying the applicant's invention." *Toro*, 199 F.3d at 1301. The '992 Patent appears to teach only a

device wherein the body is attached externally to the underwater cable. Moreover, that the '992 Patent also teaches inductive coupling as part of the inventive system would also suggest that a body attached externally to the streamers which receives power through inductive coupling is a critical element of the patented device. The intrinsic evidence in the '992 Patent, therefore, offers no other interpretation for the term "connectable" other than the external connection for which WG advocates.

The Court declines, however, to adopt WG's construction wholesale, as it once again equates the term "body" with "device," which, in light of WG's own admission that a portion of Ion's invention that effectuates inductive coupling is located underneath the skin of the streamer, is improper. Accordingly, the Court will construe this term as "a body attached externally to the underwater cable." Although the Court recognizes that this construction is identical to that of the previous phrase, such identical constructions are proper in this case in light of the specification and the patent claims. *See Nystrom v. TREX Co.*, 424 F.3d 1136, 1143 (Fed. Cir. 2005) (holding that "[d]ifferent terms or phrases in separate claims may be construed to cover the same subject matter where the written description . . . indicate[s] that such a reading of the terms or phrases is proper").

3. "wherein the wings are coupled to the first and second actuators"

This phrase is used in claim 1 of the '992 Patent. WG seeks to construe this term as "wherein each actuator is linked to both wings." Ion seeks to construe this term as "wherein the wings are connected to the first and second actuators." WG argues that its construction is appropriate because the specification only discloses having one roll actuator and one pitch actuator, each linked to both wings. WG also points out that Ion relied on the actuator to distinguish prior art. Ion argues that WG is improperly importing

a limitation from the disclosed preferred embodiments into the claim language. More precisely, Ion argues that the specification does not require that each actuator has an individually dedicated function such that it must be linked to both wings.

This Court agrees with Ion. Although WG may be correct that the preferred embodiment of this invention requires each wing to be coupled to the first and second actuators, one of which controls roll and one which controls pitch, the Court cannot hold that the scope of claim should be limited according to this embodiment. The language cited by WG from the specification is consistent with the notion that it is the preferred embodiment of Ion's Patent that one actuator is the roll actuator and the other is a pitch actuator. (*See* Pl. Resp. Br., Doc. No. 71, at 12.) However, nothing in the claim language or in the specification constitutes a disavowal of the possibility that each actuator may control both roll and pitch and be linked to a separate wing. Indeed, the only claim that specifically teaches one actuator controlling the roll or the pitch of both wings is claim 4. Because, however, this claim is a dependent claim, independent claim 1 and dependent claims 2 and 3 need not be read as having an identical scope as this claim. Therefore, the claim language allows for a broader interpretation than the embodiment that is disclosed in the specification. *Innova/Pure Water Inc.*, 381 F.3d at 1117 (stating that "[p]articular embodiments appearing in the written description will not be used to limit claim language that has a broader effect"). In addition, nothing in the specification indicates that having each actuator dedicated to a separate function is a necessary or critical element of the invention's functionality. *See Andersen*, 474 F.3d at 1367.

Therefore, the Court will construe this phrase according to its apparent plain and ordinary meaning to a person of ordinary skill in the art, as made apparent through the

parties' arguments. Both WG and Ion offer extrinsic evidence to suggest that the term "coupled," as it is used here, can be defined as "linked." Accordingly, the Court will construe this term as "wherein the wings are linked to the first and second actuators."

4. "a pair of actuators that . . . co-act with the wings"

This phrase is used in claim 13 of the '992 Patent. WG seeks to construe this phrase as "two actuators that act together on each wing." Ion seeks to construe this term as "a pair of actuators that interact with the wings."

WG once again points out that the specification discloses one roll actuator and one pitch actuator, each of which are linked to both wings. Ion argues that its construction finds support in the prosecution history of this patent, which describes first and second actuators that "interact" with the wings to control the depth and lateral position of the underwater cable. Ion also points out that it is not necessary for both actuators to act on each wing. This Court once again agrees with Ion that it is not necessary to construe this term such that both actuators act on each wing by definition. While this is clearly the preferred embodiments of the invention, as explained above, there is no disavowal of the possibility left open by the claim terms that the each actuator may be assigned to a different wing. Moreover, although WG argues that its construction is more consistent with the plain and ordinary meaning of the term because "co-act with the wings" clearly means that the actuators are acting together on the wings, the Court does not find that this interpretation to be so obvious. The language of the claims does not make clear that the "co-actors" are the two actuators, rather than a single actuator co-acting with a single wing. Accordingly, absent a disavowal of claim scope, the Court will not construe this term as WG argues in order to limit its scope. Therefore, the Court

rejects WG's construction to the extent that it suggests that both actuators must act on each wing.

Furthermore, the Court notes that the context in which this claim term is used refers to the actuators co-acting with the wings "to adjust angular positions of the wings to control the depth and lateral position of the underwater cable in the water." ('992 Patent, col. 30 ll. 41-44.) Accordingly, Ion's construction, which finds some support in the prosecution history, seems to offer the most logical construction of the term "co-act" as it is used in the context of the claim language. What is being described in the claim is clearly a device in which the actuators are interacting with the wings in order to adjust their angle, thereby influencing the position of the streamer. WG's use of the verb "act together," by contrast, does not offer a clear construction of the claim language, as it not clear which mechanisms are acting together with what. Accordingly, because it most accurately reflects what is being described with the use of this claim term, the Court adopts Ion's construction, and construes this phrase as "a pair of actuators that interact with the wings."

5. "the envelope defined by the underwater cable"

This phrase is used in claim 7 of the '992 Patent. WG argues that this phrase is indefinite and should be struck. Ion argues that the phrase needs no construction and clearly refers to the physical boundary of the underwater cable. Ion maintains that its position is supported by intrinsic evidence within the claim term such as language regarding the reduction of drag and noise.

The Court recognizes that indefiniteness is a high standard, and that, in determining whether a claim is indefinite, all presumptions must be rendered in favor of

the patentee. *Bancorp Services LLC v Hartford Life Ins. Co.*, 359 F.3d 1367, 1371 (Fed. Cir. 2004). However, this Court is unable to assign any meaning or construction to this particular phrase as it is used in the claim in question. While Ion may be correct that this phrase was intended to refer to the physical boundary of the underwater cable, nothing in the claim language, the specification, or the prosecution history makes this meaning clear or even readily apparent. Moreover, even taking into account the many ways in which the term “envelope” may ordinarily be understood, the Court is unable to point to any extrinsic evidence that would make the meaning of this term more clear. The Court therefore agrees with WG’s expert that the meaning of this phrase cannot be determined with any degree of specificity or definiteness. Accordingly, the Court will, under 35 U.S.C. § 112, ¶ 2, strike the particular clause of claim 7 that contains this phrase, or “wherein the axes of rotation of the wings extends towards the envelope defined by the underwater cable.”

D. AGREED CONSTRUCTIONS

The parties submitted agreed constructions for certain additional phrases from the patents-in-suit as follows:

1. “at least some”

This phrase will be construed as “more than one.”

2. “master controller”

This phrase will be construed as “a controller that sends commands to other devices in a system.”

3. “stationarily [mountable/connectable]”

This term will be construed as “[mounted/connected] in a fixed position.”

IV. CONCLUSION

In accordance with the analysis set forth in this Memorandum, the Court hereby construes the phrases from the patents-in-suit as follows:

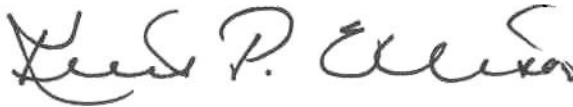
CLAIM TERM	COURT'S CONSTRUCTION
"streamer positioning device(s)"; "the positioning device"	a device that controls the position of a streamer as it is towed (<i>e.g.</i> , a "bird")
"global control system"	a control system that sends commands to other devices in a system (<i>e.g.</i> , local control systems)
"local control system"	a control system located on or near the streamer positioning devices (<i>e.g.</i> , birds)
"location information"	information regarding location
"on or inline with"	No construction is necessary.
"feather angle mode"	a control mode that attempts to set and maintain each streamer in a straight line offset from the towing direction by a certain feather angle
"turn control mode"	mode wherein streamer positioning device(s) generate a force in the opposite direction of a turn and then directing each streamer positioning device to the position defined in the feather angle mode
"streamer separation mode"	a control mode that attempts to set and maintain the spacing between adjacent streamers
"means for obtaining a predicted position of the streamer positioning devices"	global control system and predictor software; and equivalents thereof
"means for obtaining an estimated velocity of the streamer positioning devices"	flowmeters; water velocity sensors; and equivalents thereof
"means for calculating desired changes in the orientations of the respective wings of at least some of the streamer positioning devices using said predicted position and said estimated velocity"	global control system; local control system and localized displacement/force conversion program using a look-up table or a conversion routine; and equivalents thereof

"means for actuating the wing motors to produce said desired changes in wing orientation"	motor driver; and equivalents thereof
"at least some"	more than one
"active streamer positioning device (ASPD)"	a device capable of controlling the vertical and horizontal position of the seismic streamer
"master controller"	a controller that sends commands to other devices in a system
"the master controller"	a master controller
"positioning commands"	signals or instructions to control positioning
"maintaining a specified array geometry"	maintaining a specified array shape
"a streamer behavior prediction processor which predicts array behavior"	a processor that predicts the position of streamers in an array
"environmental factors"; "environmental influences"; "environmental measurements"	environmental factors or influences such as wind speed and direction; tidal currents velocity and direction; ocean bottom depth/angle; local current velocity and direction; wave height and direction; ocean bottom depth/angle; and water temperature and salinity
"maneuverability influences"; "maneuverability factor(s)"	conditions that affect maneuverability other than environmental conditions such as cable diameter, array type, deployment configuration, vessel type, device type, etc
"a body . . . mountable to the underwater cable"	a body attached externally to the underwater cable
"a body connectable to the underwater cable"	a body attached externally to the underwater cable

"wherein the wings are coupled to the first and second actuators"	wherein the wings are linked to the first and second actuators
"a pair of actuators that . . . co-act with the wings"	a pair of actuators that interact with the wings
"the envelope defined by the underwater cable"	This clause of the claim is struck as indefinite under 35 U.S.C. § 112, ¶ 2.
"stationarily [mountable/connectable]"	[mounted/connected] in a fixed position

IT IS SO ORDERED.

SIGNED this 16th day of July, 2010.



KEITH P. ELLISON
UNITED STATES DISTRICT JUDGE